THE RETURN OF SE SAPPER'S HELPTET, TUDDLE OF ITTE CENTURY





FRENCH TRENCH HELMET, 1915

MODERN SQUARE SHIELD tile, for, even if the defense is not penetrated,

CHEVAUX- DE FRISE 18TH AND 19TH CENTURIES

ARSHAL MAURICE of Saxe, writing in the middle of the eighteenth century, deplored the disuse of defensive armor as being the cause of large number of casualties in battle. He very truly observed that most of the wounds caused by spent bullets, sword, lance, or pike thrusts would be minimized, if not

-Pistoi Shieid of Henry VII (Obverse and Reverse)
-Skull Cap, Late Seventeenth Century,
-Sapper's Helmet, Middle of Nineteenth Century,
-Secrete, Late Seventeenth Century,
-Steel Skull Cap, 1915,
-Gorget, Early Eighteenth Century,
-Chapel de Per, Fitteenth and Sixteenth Century,
-Pikeman's Pot, Middle of Seventeenth Century,

prevented, by the use of some kind of metal protection. He does not suggest that its weight and unwieldiness was any drawback, for he recommends a cuirass made of buff leather, re-enforced with metal strips, weighing in all 30 pounds, as a very useful equipment, and he gives as his opinion that it was only the cost of armor which brought about its disuse. From the middle of the sixteenth century there had been much discussion as to the practical value of armor, and Sir John Smythe, writing in 1590, cites the death of Sir Philip Sidney from a spent bullet as a reason for adhering to the old fashions in military equipment. As early as 1569 armor was proved by musket or pistol shot, and in 1590 Sir Henry Lee, master of the armories, arranged a trial to determine the respective merits of Shropshire iron and "Hungere" or Innsbruck metal, with re-

sults disastrous to the homemade product. In the "Verney Memoirs," under the date of 1667, we find that one Richard Hals proved his armor with "as much powder as will cover the bullet in the palm of the hand." It was this proof by musket shot, combined with the gradual decadence of the craft of the armorer, who had by this time lost the art of tempering his metal. which produced the graceless and cumbersome equipment of the seventeenth century-proof against firearms, it is true, but so heavy and inconvenient as to be entirely unsuited for extended expeditions, and for the new school of military tactics. The last relic of the complete suit of plate was the small crescent-shaped gorget worn by infantry officers up to about the year 1830. Once this had been a practical protection to the throat, but latterly it shrank to a small plaque of brass, little larger than a regimental badge. Quilted armor, brigandines, and chain mail were occasionally used after field armor had been given up; but these were solely used against the attack of the assassin. Napoleon III is said to have worn a defense of mail; the cavalry of the Confederate army in the American Civil war favored a vest lined with plates of steel; and Ned Kelly, the bushranger of our own day, wore a helmet and cuirass of bulletproof boller plate. The thin strips of steel used in the brigandine were only of value against sword cuts, and it was for this purpose that they were employe' in the "secretes" or hat linings, of which there are still large numbers in the Tower, and in the hat of Bradshaw the regicide, in the Ashmolean museum, Oxford. The modern French and German defenses of this nature would seem to be quite useless against long-range rifles. For many years inventors have brought forward contrivances, claimed to be bulletproof, which provided thrill-ing turns on the music hall stage, but none ever dared to face the service rifle wearing their invention. As has been repeatedly pointed out in recent articles on this subject, the only value of armor at the present day is as a protection from glancing or spent bullets. It has no value what-

the resultant shock is as serious as a bullet wound. It is therefore this glancing surface which should be studied if armour is to have any place in modern warfare, and metal of a high temper and light in weight should be employed. It is unthinkable that such defenses will ever be officially recognized, for, if issued on a large scale, they would greatly impede the mobility of troops already carrying more dead weight than did the soldier of the sixteenth century in his suit of half-armor. If such contrivances are pursisted upon, and proof should be recorded by some responsible body, as it was in the days of Charles I, when the Armorers company of Loudon were ordered to carry out such tests and stamp all armor that satisfied the conditions with their mark. If these defenses are carelessly made of indifferent material they will assuredly be far more of a danger than a protec-

It is imposible to criticize the modern produc tions without seeing them in actual use in the trenches, but it would seem that the pistol shield with crossed bars is in direct opposition to the theory that the "glancing surface" is of importance, for here, wherever the bullet strikes, it will deliver the full force of its blow and will not fly off at a tangent as it would from Henry VIII's pistol shield which is preserved in the Tower. The plain skull-cap seems to fulfill the required conditions, except that it should be provided with a brim curving outward, like the chapel de fer of the sixteenth century. The French helmet appears to provide some lodgments for the bullet in the straight brim and high comb, but again it should be noted that it is impossible to criticize practically until the defense is seen in action.

Besides the ordinary body armor of the late seventeenth century in the Tower collection there are a few interesting specimens of siege implements which were the precursors of modern contrivances. The chevaux de frise of the days of Wellington are a series of sergeants' pikes joined by horizontal rods, and so arranged that they can be stretched across a road or the breach in a wall as a protection against cavalry-an anticipation of the present barbed wire entanglement. The sappers' mantels of leather and iron have continued in use from the time of the Romans up to today, and the weighty trappings that were used in the middle of the seventeenth century show that even then armor was seriously used in the trench work. Several of the eighteenth century muskets in the Tower of London have brass cups fixed to the barrel or butt from which grenades were thrown, a necessary precaution when the fuse used was the slow match. Step by step we can trace the evolution of military invention, and it is peculiarly interesting to find that today, in the light of all our scientific knowledge and experience, we are suddenly forced back to make use of appliances of four hundred years ago which we had but recently stigmatized as relics of barbarism.

The facts show that from the stone age onward armor agver became extinct. It has always been worn. At the present day, to be sure, it appears less for service than as a uniform of the bodyguard of royalty. And you recall that corselet and steel headpiece are still seen in St. James park, or in Potsdam, or indeed in Republican

France, where the tradition of the bodyguard of the emperor still survives. But even these relics of ancient armor are known to be serviceable. saving many a guardsman from wounds of saber or lance or even high velocity projectiles when striking at an angle

It is true that the disuse of armor followed the invention of better grades of powder, but it must, nevertheless, be remembered that, during the time when armor was worn oftenest in Europe, gunpowder was in common use. During the latter haif of the sixteenth century not only cannon but guns and pistols were seen everywhere. Nevertheless armor continued to be used. It was in many cases the matter of expense which limited the wearing of armor; for in those days the cost of armor was high, very high. Clearly, therefore, a man would be less apt to wear a really good harness-one which might have cost the equivalent of ten thousand dollars in the present purchasing power of money-when the protection it gave him was not complete; he preferred then to wear common heavy armor, and in the end to

neglect wearing armor altogether. When he found that his enemy kept away from him, the range of firearms increased. Later on he 'took a chance" of receiving a wound

It was only during the Thirty Years war, say before 1650, that cheap armor of very great weight-almost intolerable-came into general use. Then, too, one must remember that there was for a long time a feeling that armor was not heroic. Even in earlier centuries many a distinguished officer thought it chivalrous to appear in battle only partly armed. Thus we read of historical personages going into battle with helmet visor raised, and of such a knight errant as Sir Philip Sydney fighting bareheaded. The feeling that it is discreditable to wear armor is strong even at the present day.

The reasoning runs. It is cowardly to take an unfair advantage of an adversary. Surely a man in a duel would not wear a shirt of mail; so why should be be armored in battle, which is only a duel on a larger scale?

Shields should be and are already in constant use. It may be recalled that the Japanese redeveloped this system effectively in their war with Russia, especially in the capture of "Two Hundred and Three Meter hill," where they moved along in front of the advancing infantrymen. In earlier times the Japanese sometimes were a flat shield slung upon the breast, but always as a defense against shot.

When one considers the value to the commu nity of even one soldier, surely no nation should afford not to protect him as best it can. The descendants of an individual may amount

to thousands in the course of a couple of centuries, so one can figure out what the human losses to the countries now at war must represent in the future. If armor will save even a few hundreds of men it will certainly pay as a national investment to use it. The time will soon come when governmental commissions will take up this matter effectively.

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Wrong Impression. "Why did you quit your last place? Wasn't your work congenial?" "Lady, no work is congenial."

He was angry and he grabbed his hair with both hands. "Stop that!" shouted his wife; "you em to forget that I'm here!"

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Kind words never die, but the un kind live quite long enough

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Truth.

Mrs. Exe-Here's an invitation from Mrs. Boreleigh to one of her tiresome dinners. I hate them.

Exe-Why not plead that you have

a previous engagement? Mrs. Exe-That would be a lie. Edith, dear, write Mrs. Bareleigh that we accept with pleasure.-Boston Transcript.

Next to Nothing. "Why does your wife dry the clothes in the cellar now? That isn't healthy. is it?"

ashamed to hang the stuff in the vard."-Judge. Military training is compulsory on all male citizens between the ages of

"Dunno. To tell the truth, daugh-

ter is wearing so little that mother is

What every mother needs is more kindliness and sympathy while she is alive and less flapdoodle after she is

twelve and twenty-five in New Zea-

Queer Talk. "Is Jones' firm really going up?" "Yes, I heard yesterday they were going under."

said a colored citizen who was in durance vile. "I sho' likes it fine! De lookout fum dat winder dar am elegant and de bars acrost it adds to its traction. Inside it's as comfortable CARTER'S LITTLE

"Look here! What in the world are you in for?" "Bigamy, sah. I done got three wives."

Just as Much Fun. "Vanessa is resourceful. Ten men at the hotel and not one of them able

"Well?" "So she's giving them lessons."

to teach her to swim."

The Reason. "Scribble writes very lame poetry. "Yes, anbody can see there's some thing the mafter with its feet."

Why That Lame Back? Morning lameness, sharp twinges when stooping, or a dull, all-day backsche; each is cause enough to suspect kidney trouble. Get after the cause. Heip the kidneys. We Americans overdo, overeat and neglect our sleep and exercise, and so we are becoming a nation of kidney sufferers. 72% more deaths from kidney disease than in 1890, is the story told by the 1910 census. If annoyed with a bad back and irregular kidney action, modify the bad habits and use Doan's Kidney Pills.

A Kansas Case

A Kansas Case

E. D. Heath, 225
Metropolitan Ave.,
Argentine, Kan,
says: "I was in fix
had shape with
hiddney trouble and
was steadily getting worse. I had
a terrible, burning
sensation over my
left kidney, along
with bad back
aches. I could
hardly straighten
after stooping and I had dizzy am
erryous spells. The
doctor said my
case was incurable. Doan's Kidney
Pills rid me of the trouble and
haven't suffered since."

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and Distress After Eating. SMALL PILL SMALL DOSE, SMALL PRICE. Genuine must bear Signature

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Pardoned Murderer Has Become High ly Educated During 20 Years He Spent in Prison.

ever against the point-blank impact of a projec-

for murder, has walked forth a free

LEAVES JAIL FOR MINISTRY, to name the college, but it is in the model prisoner .- Moundsville (W. Va.) | that comes of looking before and southern part of the Bluegrass state Dispatch New York World. The release of Jones was secured through the intercession of Miss

Emma Davis, sister of United States Solicitor John W. Davis, who has been home, stating that "this dreadful war George Jones, who was serving a engaged in prison relief work for will break up unless our kind friends life sentence in the state penitentiary years. When Jones was received in the help us to hold on," moves the Times penitentiary he was an illiterate boy to an editorial protest. man, paroled by Governor Hatfield. At of twenty, who could neither read once he left for Kentucky, where he nor write. Today he is a well-educated war of modern times," remarks the

Those Poor London Cats! An urgent appeal in behalf of a cats

will enter a college and prepare him-self for the ministry. Anxious that his past should be forgotten, he refused gument about money. He has been a famine, disease and the added angular far.

after, exhortations to bestow alms upon animals seem a little out of One serious phase of the cat situa-

tion is the large number left behind by deported or interned Germans .-London dispatch to Philadelphia Rec-

If one had a voice which would reach to San Francisco it would take four hours for the sound to carry so